Antibiotic Resistance

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Teaching content area(s) 7th Grade Science
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Extern host site: State Hygienic Lab

Part I: Overview of Business

The State Hygienic Lab has been serving all 99 Iowa counties conducting newborn and maternal screenings, environmental monitoring, and disease detection since 1904.
The lab now also works to address the threat of bioterrorism and chemical terrorism.

Part II: Job Specifics

The microbiology department works to identify diseases such as mumps, salmonella, staphylococcus, and tuberculosis. They test human specimens, food, and water from area hospitals and other organizations. They work to identify trends that might signify an outbreak and help doctors treat patients quickly and effectively.

Part III: Introduce the Problem

Antibiotic resistant bacteria is a major problem we are facing. How can we help people make better choices when it comes to using antibiotics to treat illnesses? Antibiotics save people's lives but bacteria also become stronger in process.

Part IV: Background

Student will work through a blended learning rotation and then use their learning to create posters or other visual media to explain how to best combat antibiotic resistance
Take As Directed Lab
Research: Antibiotic Resistance and Natural Selection Amoeba Sisters Edpuzzle and BrainPop Antibiotic Resistance Game
Teacher Lead Lesson: Virus vs Bacteria and Gene Transfer
Individual Work: Reading and questions

Part V: Business Solution

They are working to create a database of antibiotic resistant bacteria to better understand what antibiotics are effective against each bacterium. Dr. Jennifer Ellewood has worked with me to create an introduction video about what the State Hygienic Lab is doing to help combat antibiotic resistance

Part VI: Student Solutions

Create posters or public service videos educating the public on proper antibiotic use.
Track outbreaks using current events through media. Have Dr. Ellewood review their work and make suggestions.
I will consider this project a success if my students are able to create a model showing the relationship between our genetics unit and antibiotic resistance.